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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,768	09/29/2003	Franz Danekas	Q76728	7542
23373	7590	07/15/2005	EXAMINER /	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EASHOO, MARK	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,768

Applicant(s)

DANEKAS ET AL.

Examiner

Mark Eashoo, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date var.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112 and 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected because they appear only to provide for the use of "an extruder which has a heatable housing" (clm. 1, li.4), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-11 are is rejected under 35 U.S.C. 101 because the claimed recitation of a use (ie. use of "an extruder which has a heatable housing", clm. 1, li.4), without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

For the purpose of further examination, claims 1-11 have been interpreted as reciting positive process steps to the extent at which such step may be implied.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 1, the phrase "etc." renders the claim(s) indefinite because the claim(s) include(s)

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elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the claim recites only structural limitations of the apparatus used without setting forth any additional process steps. As such the claim appears to merely recite use of a particular structure. It is noted that for a structural limitation to be entitled to patentable weight in method claims, recited structural limitations must affect the method in a manipulative sense and not amount to mere claiming of a use of a particular structure. See *Ex parte Pfeiffer* 135 USPQ 31.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alia (US Pat. 4,161,419) in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356).

Alia teaches the basic claimed process of extruding a mixture, comprising: extruding a mixture of pellets/granulate/chips of polyethylene homopolymer and a polyethylene copolymer (1:20-40 and Figs. 1-2); and a peroxide cross-linking agent of about 2% (9:1-10:65).

Alia does not teach using an extruder capable of heating the screw and housing. However, Maillefer teaches extruding plastics using an extruder capable of heating the screw and housing having at least two chambers/zones along the screw (1:35-2:40, and Fig. 1). Maillefer and Alia are combinable because they are concerned with a similar technical difficulty, namely, extruding thermoplastics. At the time of invention a person of ordinary skill in the art would have found it obvious to have used an extruder capable of heating the screw and housing, as taught by Maillefer, in the process of Alia, and would have been motivated to do so because Piccolo, Sr. et al. suggests that more uniform heating of thermo-sensitive materials (eg. polymers with thermally active peroxide cross-linking agents) may be obtained by using such extruders.

Although not specifically set forth in process steps in claim 1, claims 3 and 4 appear to imply that various zones are controlled to desired temperatures. As such, it is noted that Maillefer teaches a feed/inlet zone wherein the temperature is kept below the melting point of the feed material in order to ensure forced flow of the material through the extruder (1:35-2:5). Similarly, Piccolo, Sr. et al. teaches that is known to optimize temperature conditions along various zones of an extruder (1:35-2:40). At the time of invention a person of ordinary skill in the art would have found it obvious to have kept a feed/inlet zone below the melting point of the feed material and optimized temperature conditions along various zones of an extruder, as taught by both Maillefer and Piccolo, Sr. et al., in the process of Alia, and would have been motivated to do so since Piccolo, Sr. et al. suggests that such temperature conditions depend upon the mixing requirements and characteristics of the plastic material being processed.

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Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alia (US Pat. 4,161,419) in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356) as applied to claims 1-4 and 8-11 above, and further in view of Peruzzotti et al. (US Pat. 6,849,217) or Caimi (US Pat. 6,803,517).

Alia does not teach a polyethylene copolymer comprising EBA, EEA, or EMA in specific monomeric and final composition ratios. Nonetheless, Peruzzotti et al. (8:55-9:11) and Caimi (4:5-55) teach polyethylene copolymer comprising EBA, EEA, or EMA in specific monomeric and final composition ratios. Peruzzotti et al. and Caimi are combinable with Alia because they are concerned with a similar technical difficulty, namely, conductor coatings. At the time of invention a person of ordinary skill in the art would have found it obvious to have used the polyethylene copolymers comprising EBA, EEA, or EMA, as taught by Peruzzotti et al. and Caimi, in the process of Alia, and would have been motivated to do so because Peruzzotti et al. and Caimi suggest that such copolymers are equivalent alternatives for conductor coatings. Although the specific monomeric and final composition ratios are not taught by the references, it is well within the skill of an ordinary artisan to adjust the specific ratios in order to satisfy the requirements and characteristics of the final product (eg. economic benefit would provide motivation to do so).

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danekas et al. (U.S. Patent No. 6,830,777) in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356).

Danekas et al. '777 teach basic claimed process of extruding a mixture, comprising: extruding a mixture of granulate of polyethylene homopolymer and a polyethylene copolymer; and a peroxide cross-linking agent; and polyethylene copolymer comprising EBA, EEA, or EMA in 10-35% (see claims).

Danekas et al. '777 do not teach using an extruder capable of heating the screw and housing. However, Maillefer teaches extruding plastics using an extruder capable of heating the screw and housing having at least two chambers/zones along the screw (1:35-2:40, and Fig. 1). At the time of invention a person of ordinary skill in the art would have found it obvious to have used an extruder

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capable of heating the screw and housing, as taught by Maillefer, in the process of Danekas et al. '777, and would have been motivated to do so because Piccolo, Sr. et al. suggests that more uniform heating of thermo-sensitive materials (eg. polymers with thermally active peroxide cross-linking agents) may be obtained by using such extruders.

Although not specifically set forth in process steps in instant claim 1, instant claims 3 and 4 appear to imply that various zones are controlled to desired temperatures. As such, it is noted that Maillefer teaches a feed/inlet zone wherein the temperature is kept below the melting point of the feed material in order to ensure forced flow of the material through the extruder (1:35-2:5). Similarly, Piccolo, Sr. et al. teaches that is known to optimize temperature conditions along various zones of an extruder (1:35-2:40). At the time of invention a person of ordinary skill in the art would have found it obvious to have kept a feed/inlet zone below the melting point of the feed material and optimized temperature conditions along various zones of an extruder, as taught by both Maillefer and Piccolo, Sr. et al., in the process of Danekas et al. '777, and would have been motivated to do so since Piccolo, Sr. et al. suggests that such temperature conditions depend upon the mixing requirements and characteristics of the plastic material being processed.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danekas et al. (U.S. Patent No. 6,645,411) in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356).

Danekas et al. '411 teach basic claimed process of extruding a mixture, comprising: extruding a mixture of granulate of polyethylene homopolymer and a polyethylene copolymer; and a peroxide cross-linking agent; and polyethylene copolymer comprising EBA, EEA, or EMA in 10-35% (see claims).

Danekas et al. '411 do not teach using an extruder capable of heating the screw and housing. However, Maillefer teaches extruding plastics using an extruder capable of heating the screw and housing having at least two chambers/zones along the screw (1:35-2:40, and Fig. 1). At the time of invention a person of ordinary skill in the art would have found it obvious to have used an extruder capable of heating the screw and housing, as taught by Maillefer, in the process of Danekas et al. '411,

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and would have been motivated to do so because Piccolo, Sr. et al. suggests that more uniform heating of thermo-sensitive materials (eg. polymers with thermally active peroxide cross-linking agents) may be obtained by using such extruders.

Although not specifically set forth in process steps in instant claim 1, instant claims 3 and 4 appear to imply that various zones are controlled to desired temperatures. As such, it is noted that Maillefer teaches a feed/inlet zone wherein the temperature is kept below the melting point of the feed material in order to ensure forced flow of the material through the extruder (1:35-2:5). Similarly, Piccolo, Sr. et al. teaches that is known to optimize temperature conditions along various zones of an extruder (1:35-2:40). At the time of invention a person of ordinary skill in the art would have found it obvious to have kept a feed/inlet zone below the melting point of the feed material and optimized temperature conditions along various zones of an extruder, as taught by both Maillefer and Piccolo, Sr. et al., in the process of Danekas et al. '411, and would have been motivated to do so since Piccolo, Sr. et al. suggests that such temperature conditions depend upon the mixing requirements and characteristics of the plastic material being processed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-0892.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,830,777 in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356).

Claims 1-7 of U.S. Patent No. 6,830,777 teach basic claimed process of extruding a mixture, comprising: extruding a mixture of granulate of polyethylene homopolymer and a polyethylene copolymer; and a peroxide cross-linking agent; and polyethylene copolymer comprising EBA, EEA, or EMA in 10-35%.

Claims 1-7 of U.S. Patent No. 6,830,777 do not teach using an extruder capable of heating the screw and housing. However, Maillefer teaches extruding plastics using an extruder capable of heating the screw and housing having at least two chambers/zones along the screw (1:35-2:40, and Fig. 1). At the time of invention a person of ordinary skill in the art would have found it obvious to have used an extruder capable of heating the screw and housing, as taught by Maillefer, in the process of claims 1-7 of U.S. Patent No. 6,830,777, and would have been motivated to do so because Piccolo, Sr. et al. suggests that more uniform heating of thermo-sensitive materials (eg. polymers with thermally active peroxide cross-linking agents) may be obtained by using such extruders.

Although not specifically set forth in process steps in instant claim 1, instant claims 3 and 4 appear to imply that various zones are controlled to desired temperatures. As such, it is noted that Maillefer teaches a feed/inlet zone wherein the temperature is kept below the melting point of the feed material in order to ensure forced flow of the material through the extruder (1:35-2:5). Similarly, Piccolo, Sr. et al. teaches that is known to optimize temperature conditions along various zones of an extruder (1:35-2:40). At the time of invention a person of ordinary skill in the art would have found it obvious to have kept a feed/inlet zone below the melting point of the feed material and optimized temperature conditions along various zones of an extruder, as taught by both Maillefer and Piccolo, Sr. et al., in the process of claims 1-7 of U.S. Patent No. 6,830,777, and would have been motivated to do so since Piccolo, Sr. et al. suggests that such temperature conditions depend upon the mixing requirements and characteristics of the plastic material being processed.

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Claims 1-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,645,411 in view of Maillefer (US Pat. 4,569,595), and Piccolo, Sr. et al. (US Pat. 5,273,356).

Claims 1-13 of U.S. Patent No. 6,645,411 teach basic claimed process of extruding a mixture, comprising: extruding a mixture of granulate of polyethylene homopolymer and a polyethylene copolymer; and a peroxide cross-linking agent; and polyethylene copolymer comprising EBA, EEA, or EMA in 10-35%.

Claims 1-13 of U.S. Patent No. 6,645,411 do not teach using an extruder capable of heating the screw and housing. However, Maillefer teaches extruding plastics using an extruder capable of heating the screw and housing having at least two chambers/zones along the screw (1:35-2:40, and Fig. 1). At the time of invention a person of ordinary skill in the art would have found it obvious to have used an extruder capable of heating the screw and housing, as taught by Maillefer, in the process of claims 1-13 of U.S. Patent No. 6,645,411, and would have been motivated to do so because Piccolo, Sr. et al. suggests that more uniform heating of thermo-sensitive materials (eg. polymers with thermally active peroxide cross-linking agents) may be obtained by using such extruders.

Although not specifically set forth in process steps in instant claim 1, instant claims 3 and 4 appear to imply that various zones are controlled to desired temperatures. As such, it is noted that Maillefer teaches a feed/inlet zone wherein the temperature is kept below the melting point of the feed material in order to ensure forced flow of the material through the extruder (1:35-2:5). Similarly, Piccolo, Sr. et al. teaches that is known to optimize temperature conditions along various zones of an extruder (1:35-2:40). At the time of invention a person of ordinary skill in the art would have found it obvious to have kept a feed/inlet zone below the melting point of the feed material and optimized temperature conditions along various zones of an extruder, as taught by both Maillefer and Piccolo, Sr. et al., in the process of claims 1-13 of U.S. Patent No. 6,645,411, and would have been motivated to do so since Piccolo, Sr. et al. suggests that such temperature conditions depend upon the mixing requirements and characteristics of the plastic material being processed.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned US Patents 6,830,777 and 6,645,411, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a), as set forth above, if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

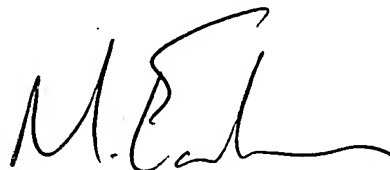
Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'M. Eashoo', with a stylized flourish at the end.

Mark Eashoo, Ph.D.
Primary Examiner
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